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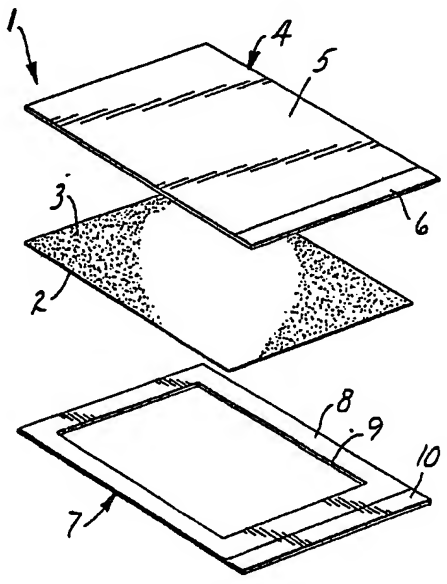
(54) DLEV device and method for applying conformable thin adhesive-coated films.

(57) A pressure-sensitive adhesive-coated relatively thin, conformable polymeric film with a releasable layer attached to the surface of the film opposite to that containing the adhesive, which layer is attached in a more tenacious manner than a release liner covering the adhesive of the film.



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DEVICE AND METHOD FOR APPLYING CONFORMABLE THIN ADHESIVE-COATED FILMS

This invention relates to conformable, thin polymeric films which have been coated with a pressure-sensitive adhesive on at least a portion of one side thereof. Particularly, this invention relates to conformable, thin polymeric adhesive-coated films combined with a carrier system to allow easy application of the films to a substrate and to the application method for doing so.

In the medical art, thin, conformable polymeric films which are coated with pressure-sensitive adhesives are sometimes used as wound dressings and surgical drapes. Polyurethane films which are adhesively coated on one surface are presently being sold for use on the body such as for attaching catheters to the body and as wound dressings. As sold, the film is attached to a release liner with one portion of the film forming a tab and being non-tacky. These films, particularly those of larger sizes, are very difficult to place on the body because when they are removed from the release liner they tend to block or resiliently stick to themselves and thus are an unwieldy product. Additionally, a thin, conformable resilient film which is applied by use of a tab on the film often places the substrate under the film after application under excessive compression because of the resiliency of the film. U.S. Patent 3,645,835 discusses polyurethane films coated with pressure-sensitive adhesives for use on the body. Surgical drapes containing tab portions for placement on the body are disclosed in U.S. Patent 3,260,260.

Prior to applicant's invention a need existed in the medical art for a device and method for applying pressure-sensitive adhesive coated thin, polymeric films to the body or to a substrate which eliminated or significantly reduced the tendency of the films to block

or otherwise become wrinkled and stick to themselves, which reduced or eliminated compression of the substrate, and which allowed placement of the film on the body without touching the adhesive surface of the film. Previous attempts to provide a means to apply a bandage containing a polymeric film or sheet have involved the use of an adhesive located on the side of the bandage opposite to the pressure-sensitive adhesive to be attached to the skin. See for example U.S. Patents 3,520,306; 2,752,038; 2,924,331. Other means of handling bandages are described in U.S. Patents 2,703,083; 2,927,689; 3,007,571 and 4,182,449. None of these have involved Applicant's device and method for application of pressure-sensitive adhesive-coated thin, conformable polymeric films to a substrate.

Handling thin layers of materials has been discussed in the decal art. For example in U.S. Patent 4,028,474 a double-backed decal is described which involves holding the backing in place with two different adhesives. In U.S. Patent 3,065,120, another decal patent, a polyamide release sheet is to be used on the surface of the decal opposite to that to which the tacky adhesive is attached, the tacky adhesive being covered with a releasable sheet of paper. The polyamide release sheet contacts a clear layer of relatively stiff vinyl lacquer and this vinyl lacquer layer is to have interfacial tension with the polyamide surface so that it remains temporarily attached thereto. The vinyl lacquer is described as being selected from the group consisting of cellulose esters and ethers, acrylic polymers and vinyl chloride and acetate polymers and copolymers. After the decal is positioned by removing the adhesive covering slip sheet of paper and placing the adhesive on the substrate, the polyamide surface paper is removed. Neither of these disclosures in the decal art deal with the problem of handling thin, conformable polymeric adhesive-coated films as herein described.

Applicant has discovered a device comprising (1) a relatively thin polymeric film which is conformable to animal anatomical surfaces, (2) pressure sensitive adhesive attached to at least a portion of one surface of said film, (3) a release liner attached to the adhesive coated surface of said film, and (4) a releasable layer attached to the surface of said film opposite the surface containing said pressure-sensitive adhesive, said releasable layer being attached to said film more tenaciously than the release liner is attached to the adhesive surface of said film. Applicant's device provides a method for applying the relatively thin, conformable polymeric film to a substrate comprising removing the release liner from the adhesive coated surface of the relatively thin, conformable polymeric film, placing said film on said substrate and removing the releasable layer from said film.

Of particular importance is the use of Applicant's device in the medical field wherein thin, conformable polymeric adhesive-coated films are applied to the skin by a single operator and oftentimes while an attempt is being made to use the film to hold in place some other device or instrument. Thus it is important that only a single hand be needed for placement of the film and that the film not block or otherwise stick together. Applicant's device provides this capability. Additionally, the device, as will be discussed below, allows placement of the film without significant compression of the tissue by the resilient forces of the film and without contact by the operator with the adhesive coated side of the film in the embodiments when a tab is present. Preferably the releasable layer of Applicant's device is at least translucent to permit visual observation therethrough of the substrate to which the film is being applied.

Applicant's device and method will be discussed in more detail with reference to the following drawings in which:

Figure 1 is an expanded perspective view showing one embodiment of the device of the present invention,

Figure 2 is an expanded perspective view of another embodiment of the present invention,

Figure 3 is a perspective view of the device of Figure 1,

Figure 4 is a view of the device of Figures 1 and 3 being applied to the body limb,

Figure 5 is a section taken along line 5 of Figure 4, and

Figure 6 is a view of the device of Figure 4 after placement is complete on the body.

Referring to the figures in more detail, Figure 1 discloses the device 1 comprising thin, conformable polymeric film 2 coated with pressure-sensitive adhesive 3 on the upper surface thereof. Above but normally attached to the upper surface of film 2 containing adhesive 3 is release liner 4 containing portion 5 for covering of adhesive 3 and tab 6 which provides a means for removal of the release liner 4 from adhesive 3 without touching and thus contaminating adhesive 3. Below film 2 is releasable layer 7 comprising frame 8 surrounding opening or perforation 9 and containing tab portion 10 for purposes of removal of releasable layer 7 from film 2 without touching film 2. Tab 6 and tab portion 10 are optional but are preferred for the aforesaid reasons. Tab 6 and tab portion 10 can be integrated with release liner 4 and frame 8, respectively or can be attached separately by adhesive or other well known means. Releasable layer 7 is not attached to film 2 by a pressure-sensitive adhesive but is normally attached to the film 2 by means of the mechanical attachment forces which result when film 2 is extruded or otherwise formed on releasable layer 7. Releasable layer 7, at the time of formation, does not include perforation or opening 9 as will be described in more detail later along with the composition and construction of release liner 4, film 2, adhesive 3 and releasable layer 7. Perforation 9 provides frame 8 with flexibility and conformability.

Figure 2 depicts another embodiment of the present invention. In this embodiment a thin, conformable film 11, of the same type as film 2 of the previous embodiment, containing pressure-sensitive adhesive 12 on one surface thereof, is sandwiched between release liner 13 containing portion 14 for covering adhesive 12 on film 11 and tab portion 15 which permits removal as with the embodiment of Figure 1 of the release liner 13 without requiring contact with adhesive 12. Below film 11 and attached to film 11, as described with respect to the embodiment of Figure 1, is releasable layer 16 comprising portion 17 which is attached to the non-adhesive surface of film 11 and tab 18 which permits removal of releasable layer 16 from film 11 without contact with film 11. This embodiment will be referred to generally as 19.

Figure 3 depicts device 1 with the parts thereof shown attached to each other, specifically release liner 4 is attached at portion 5 to the adhesive 3 of film 2. The tab 6 of release liner 4 has been pulled so that a portion of adhesive 3 on film 2 is exposed. This depicts how release liner 4 is removed from film 2 containing adhesive 3, i.e., tab 6 is grasped as well as tab 10 of releasable layer 7. Since the release liner 4 is removed more easily from adhesive 3 than is releasable layer 7 from film 2, the release liner 4 is removed leaving film 2 containing adhesive 3 with releasable layer 7 containing perforation 10, opening 9 and frame 8 attached thereto. In Figure 3 a corner 20 of film 2 is raised to show how releasable layer 7 is removed from film 2 and to indicate that there is no adhesive attaching film 2 to releasable layer 7. Also in Figure 3 opening 9 is visible because film 2 and adhesive 3 are transparent.

Figure 4 depicts the placement of device 1 on a human body limb 21. In Figure 4 device 1 has removed from it release liner 4, thus release liner 4 is not shown. Film 2 containing adhesive 3 (not shown) is now adhesively adhered to limb 21 over wound 22. When film 2 was placed

on limb 21 over wound 22 it remained attached to releasable layer 7 containing frame 8, opening 9 and tab 10. Layer 7 provides the means by which the film can be handled without blocking or otherwise becoming wrinkled and sticking to itself. It is a flat continuous wrinkle-free film until placed on the skin and releasable layer 7 is removed. The importance of opening 9 in releasable layer 7 and thus the form of frame 8 being what it is, i.e. a frame, is graphically shown in Figure 4. Film 2 is transparent and opening 9 in combination with transparent film 2 provides a visual observation of wound 22 and an accurate placement of film 2 over wound 22. With embodiment 19 the releasable layer 16 is preferably at least translucent thus providing the same ability to view the wound when used. Figure 4 depicts corner 23 of releasable layer 7 being partially pulled away from film 2. This indicates how releasable layer 7 is removed from film 2 when film 2 is in place and adhesively attached to limb 21. The adhesive forces holding film 2 on limb 21 are greater than the forces holding releasable layer 7 on film 2. Generally the adhesion to skin determined as described later is greater than about 40 gm per 2.54 centimeters width. Thus the releasable layer 7 is removed from film 2 when tab 10 is pulled rather than film 2 being pulled from limb 21.

Figure 5, which is a partial section view of limb 21 taken along line 5 of Figure 4, shows releasable layer 7 overlying film 2 which is attached to limb 21 and also indicates that tab 10 of releasable layer 7 extends beyond film 2 and provides an easy means to grasp releasable layer 7 and remove it from film 2. Frame 8 of releasable layer 7 can contain a slit rather than tab 10 to provide a means of removing the frame 8 from film 2.

Figure 6 depicts film 2 in place and adhesively attached over wound 22 on limb 21 with releasable layer 7 (not shown) removed therefrom.

Film 2 and film 11 of the device of the present invention are thin, conformable polymeric films. Generally the films are from 12 to 50 microns in thickness, preferably from 12 to 25 microns. Conformability is somewhat dependent on thickness, thus the thinner the film the more conformable the film. Reference has been made herein to the films utilized in the device of the present invention being conformable to animal anatomical surfaces. This means that when the films of the present invention are applied to an animal anatomical surface it conforms to the surface even when the surface is moved. The preferred films are conformable to animal anatomical joints. When the joint is flexed and then returned to its unflexed position, the film stretches to accommodate the flexation of the joint but is resilient enough to continue to conform to the joint when the joint is returned to its unflexed condition. A measure of conformability is the F_{10} modulus of the film which is the pounds (grams) force it takes to stretch a material ten percent of its original length. The films of the present invention preferably have a F_{10} modulus no greater than about 1 pound (454 grams) and preferably less than about 0.8 pounds (363 grams). The device of the present invention can be utilized on films which have F_{10} moduli upwards of 2.5 pounds (1135 grams), however, as the F_{10} modulus increases the conformability decreases and the ability to handle the films without the previously discussed blocking problems is increased.

F_{10} modulus as referred to herein is determined using an Instron Unit Model 1102 from Instron Corp., 2500 Washington Street, Canton, Massachusetts. The cross-head speed of the Instron is ten inches per minute and the chart speed is set at ten inches (25.4 cm) per minute. The gauge length is set at two inches (5 cm) with the test sample cut to test a one-inch width (2.54 cm.).

Examples of films which are useful in Applicant's invention include polyurethane, elastomeric polyester such as DuPont "Hytrel" polyester elastomer

(Wilmington, Delaware), polyethylene, blends of polyurethane and polyester, chlorinated polyethylene, styrene/butadiene block copolymers such as "Kraton" brand thermoplastic rubber (Shell Chemical Company, Houston, Texas), and polyvinyl chloride. Particularly preferred films for use in the present invention are polyurethane and elastomeric polyester films. The polyurethane and elastomeric polyester films exhibit a resilient property which allows the film to have good conformability. However, this property also causes them to compress the tissue if the film is applied under tension onto the wound site, i.e., if the film is in a stretched condition when it is placed on the wound. Thus, the device of the present invention is particularly useful with polyurethane films and other films which exhibit a significant degree of resiliency.

For use on animal bodies, it is preferred that the film with the adhesive attached be moisture vapor permeable. Certain polyurethane films, elastomeric polyester films and blends of polyester and polyurethane films are moisture vapor permeable. Other films, such as chlorinated polyethylene and polyethylene, are not significantly moisture vapor permeable in an unperforated form. The films of the present invention are preferably at least translucent and more preferably transparent so that if a translucent or transparent releasable layer is used in the device of the present invention the wound site or substrate to which the film is to be applied can be viewed through the releasable layer as well as the film when the film is being applied to the substrate.

The preferred adhesives which can be used in the device of present invention are the normal adhesives which are applied to the skin such as those described in Ulrich U.S. Patent RE 24,906, particularly a copolymer of 96% iso-octyl acrylate units and 4% acrylamide units and a copolymer of 94% iso-octyl acrylate units and 6% acrylic acid units. Other useful adhesives are those described in

U.S. Patent 3,389,827 which comprise block copolymers having three or more polymer block structures having a general configuration --A -- B -- A --- wherein each A is a thermoplastic polymer block with a glass transition temperature above room temperature (i.e., above about 20°C.) having an average molecular weight between about 5000 and 125,000 and B is a polymer block of a conjugated diene having an average molecular weight between about 15,000 and 250,000. Additional examples of useful adhesives are iso-octyl acrylate/n-vinyl pyrrolidone copolymer adhesives and crosslinked acrylate adhesives such as for example those described in U.S. Patent 4,112,213. Inclusion in the adhesive of medicaments or antimicrobial agents such as iodine is useful for enhancing wound healing and preventing infection.

The release liner which is attached to the adhesive on the film is a liner which releases with less force than is required for the releasable layer to be removed from the film. Generally the adhesive to liner as determined in accordance with ASTM D3330-76 is between about 3 and 20 grams per 2.54 cm width while the adhesion to releaseable layer of the film is greater than that to the liner and ranges up to about 70 grams per 2.54 cm width. Examples of release liners are liners made of or coated with polyethylene, polypropylene and fluorocarbons and silicone coated release papers or polyester films. Examples of the silicone coated release papers are Polyslik S-8004, 83 pound (37682 grams) bleached silicone release paper supplied by H.P. Smith Co., Chicago, Illinois, and 80 pound (36320 grams) bleached two-sided silicone coated paper supplied by Daubert Chemical Co., Dixon, Illinois. Releasable layer 7 of device 1 and 16 of device 19 comprises materials which will adhere to the films 2 and 11, respectively with a greater tenacity than release liners 4 and 13 adhere to adhesives 3 and 12 respectively in order that the release liners are removed prior to the removal of the releasable layers. The releasable layers

can comprise materials generally of the type described in respect to the release liner although as noted above more adherent varieties or surfaces of the above materials will be used as releasable layers. The releasable layers are attached with less tenacity to the film than the adhesive attaches the film to the substrate such as the skin.

Devices 1 and 19 of the present invention are manufactured using conventional film forming techniques, for example extrusion, casting or calendaring as well as conventional adhesive placement and slitting techniques. The releasable layer is preferably coated with the film by means of extruding the polymeric substance through a die onto the releasable layer. Adhesive is then applied to the film using normal direct or transfer coating techniques. The film is cut to allow for the tabs using control depth cutting techniques. The release liner is then placed over the adhesive of the film and the combination is appropriately die cut, either through control-depth die cutting in respect to the embodiment shown in Figure 1 or in respect to embodiment 19, to cut-out the totality of the device to provide the final product. Normally the portions of the releasable layer which is cut to provide the perforation 9 in frame 8 of Figure 1 will be retained in the perforation until it is removed by the user prior to use. It should be noted that although the portion of the releasable layer 7 of Figure 1 which is removed to form perforation 9 is attached more tenaciously to the film 2 than the release liner 4 is to adhesive 3, the portion of releasable layer 7 to be removed can be removed without removing the release liner because the device 1 is grasped at the tabs 6 and 10 or elsewhere to permit said removal. In some instances formation of perforation 9 by removal of a portion of releasable layer 7 will cause the film 2 to be pulled in small, insignificant areas from release liner 4.

The device of the present invention is produced in the form of individual units having the configuration

shown in, for example, Figures 1 and 2. Alternatively the device is packaged as a continuous roll of adhesive coated film with a releasable layer attached to the non-adhesive surface of the film. In roll form, one surface of the releasable layer is attached to the non-adhesive surface of the film and the adhesive layer of the film is rolled onto the continuous length of the combination so that the adhesive surface contacts the opposite surface of the releasable layer to that attached to the non-adhesive surface of the film. In this configuration the releasable layer and release liner are one and the same. However, the releasable layer is attached more tenaciously to the film than the adhesive is attached to the releasable layer surface which is adjacent the adhesive. Alternatively, a separate release liner could be used with the roll form of the device.

It is contemplated that additional appliances or materials can be attached to the non-adhesive surface of the film, such as by attaching a colostomy bag to the non-adhesive surface of the film through the perforation 9 in frame 8 in the embodiment shown in Figure 1. Also, absorbent material such as gauze or other compresses could be attached to the adhesive surface layer of the film for application to a wound site.

The following examples are meant to illustrate but not to limit the invention. In the examples adhesion to liner and adhesion to releaseable layer values were determined in accordance with ASTM D3330-76. It should be noted that the adhesion to skin data is not comparable with the adhesion to liner and adhesion to releasable layer data because a different test procedure is used. The adhesion to liner and adhesion to releasable layer data is comparable. Adhesion to skin was determined in accordance with the procedure set forth hereinafter. The adhesive properties are determined on human skin since there is no <u>in vitro</u> model which correlates well with human skin.

The adhesion to skin was measured as follows:

1. Adhesive coated films 2.54 cm. wide by approximately 7.62 cm. long are placed on the back of a human subject.

2. Each film is rolled down with one forward and one reverse pass of a 1 kg. tape roller moved at a rate of about 30 cm. per minute. The roller used is of the type described in Test Methods for Pressure-Sensitive Tapes (Pressure-Sensitive Tape Council, Glenview, Ill.) Appendix B, Sections 2.7.1; 2.8.1; and 2.8.2.

3. Adhesion to skin is measured by 180 degrees peel-type removal. The peel force values are measured through the use of a strain-gauge mounted on a motor-driven carriage. The force of the removal is reported in grams of adhesion per 2.54 cm. width of sample. The rate of removal is 15 cm. per minute.

4. The adhesion to skin is measured immediately after placement on the skin.

EXAMPLE 1

A one mil, i.e., 25 micron film of "Estane" 5707-F1 polyurethane resin (B.F. Goodrich, Cleveland Ohio) was extruded using a three-quarter inch (1.9 cm) Rheomex Model 252 screw extruder (manufactured by Haake, Saddlebrook, New Jersey), a sheeting die and a melt temperature of 200°C. The film was extruded onto the back side of a clay-coated side of a 78 pound (35412 grams) paper (releasable layer) which was clay-coated on one side by roll coating (No. 70-05-04-000, Boise Cascade Corporation, International Falls, Minnesota). Immediately after extrusion the paper/resin combination was passed through a nip roll at 40 psi (2812 grams per square centimeter). Twenty-five grams per square meter of an adhesive prepared in accordance with U.S. Patent Reissue 24,906 comprising a copolymer of 96% units of isooctylacrylate and 4% units acrylamide was applied to the surface of the film that was not attached to the clay-coated paper utilizing a standard

horizontal knife lab coater. A release liner comprising 80 pound (36320 grams) bleached, two side coated, silicone paper (2-80 BKG-157, Daubert Chemical Company, Dixon, Illinois) was applied to the adhesive of the film. Samples of one lot of the composite were cut for purposes of obtaining adhesion to liner, initial adhesion to skin and adhesion to releasable layer data. In addition, samples of another lot were prepared of the configurations shown in Figures 1 and 2 using a die-cutting machine for control depth die cutting (Model 813, Series K7Y223, Mark Andy, St. Louis, Missouri) and a razor blade. The samples were tested both sterilized and nonsterile. Sterilization was obtained using three megarads of gamma radiation.

	Average Grams per 2.54 cm width		
	Adhesion to Liner	Initial adhesion to skin 18 subjects	Adhesion to Releasable layer
Non-Sterile	4.3	50.56	50
Sterile	8.3	57.57	66.7

The F_{10} modulus of the film was 0.55 pounds (250 grams).

EXAMPLE 2

The procedure of Example 1 was followed except that the adhesive used was a polymer of 96% units of isooctylacrylate and 4% units acrylic acid and the amount of adhesive applied was 40 grams per square meter. Non-sterile devices of the type of Figure 2 were made using a razor blade. Results were as follows: Average adhesion to liner, 16 grams per 2.54 cm. width; average initial adhesion to skin (6 subjects), 99.11 grams per 2.54 cm. width and adhesion to releasable layer, 27 grams per 2.54 cm. width. The F_{10} modulus of the film was again 0.55 pound.

EXAMPLE 3

The procedure of Example 1 and materials used in

Example 1 were followed and used with the following exceptions. The melt temperature was 190°C and the nip pressure was 80 p.s.i. (5624 grams per square centimeters). The film was "Estane" polyurethane resin (58309-021, B. F. Goodrich, Cleveland, Ohio). The amount of adhesive utilized was 21 grams per square meter. The results of the tests were as follows:

Average Grams per 2.5 cm. Width

	Initial Adhesion to Liner	Adhesion to skin (6 subjects)	Adhesion to Releasable Layer
Non-Sterile	6	62.9	35.0
Sterile	7	43.6	34.0

The F_{10} modulus of the film was 0.25 pound (113.5 grams).

EXAMPLE 4

Styrene butadiene block copolymer resin ("Kraton" 1101 thermoplastic rubber, Shell Chemical Co., Houston, Texas) was solvent cast into a 0.5 mil film (12 micron) using a 3 mil (75 microns) knife orifice, 9-inch (23 cm.) wide laboratory knife coater. Samples of the type shown in Figure 2 were prepared using a razor blade. The block copolymer resin was applied as a 25% solid solution in tolulene solvent to the silicone release side of a polyester film. The polyester film was 1 mil (25.4 microns) clear "Mylor" brand polyester which was one-side coated with silicone. (1-1 mil-Mylor-164, Daubert Chemical Co., Oak Brook, Illinois). The solvent was dried off in a 200°F oven. The silicone coated polyester film was the releasable layer. The adhesive of Example 1 was applied to the surface of the film not attached to the polyester film by means of laminating a liner containing 21 grams of the adhesive per square meter on the silicone-coated paper referred to in Example 1 by means of dry lamination process between two squeeze rolls on a Laminex Model 12V machine (Laminex, Inc., Matthews, North

Carolina). Samples of Figure 2 type devices were made using a razor blade. Test results were as follows:

Average Grams per 2.5 cm. Width

	Adhesion to Liner	Initial Adhesion to Skin (1 subject)	Adhesion to Releasable Layer
Non-Sterile	5.0	48	7.5

The releasable layer was transparent.

EXAMPLE 5

The procedure of Example 1 was followed except that a 1 mil (25 micron) "Hytrel" 4056 brand polyester elastomer (E. I. duPont de Nemours & Co., Wilmington, Delaware) film was prepared. The adhesive of Example 1 at the same coating weight was utilized. The melt temperature was 204°C and the nip pressure was 80 p.s.i. (5624 grams per square cm). The adhesive was applied as in Example 4. Samples of the Figure 2 configuration were prepared in accordance with Example 1 using a razor blade. The releasable layer was the clay coated paper of Example 1. The results of the tests were as follows:

Average Grams per 2.5 cm. Width

Adhesion to Liner	Initial Adhesion to Skin (one subject)	Adhesion to Releasable Layer
6	55	45

The F_{10} modulus of the film was 0.8 pound (363 grams).

In all of the above Examples the samples were utilized as described above and placed on the skin. No blocking or significant wrinkling of the film occurred prior to placement on the skin and the skin was not significantly compressed under the film. The films were conformable to the skin. The releasable layer attached more tenaciously to the respective film than the

respective adhesive to the liner and the respective film attached more tenaciously to the skin than the respective film to respective releasable layer.

CLAIMS:

1. A device comprising (1) a relatively thin polymeric film which is conformable to animal anatomical surfaces, (2) pressure sensitive adhesive attached to at least a portion of one surface of said film, and (3) a release liner attached to the adhesive coated surface of said film, the improvement comprising a releasable layer attached to the surface of said film opposite the surface containing said pressure sensitive adhesive, said releasable layer being attached to said film more tenaciously than the release liner is attached to the adhesive surface of said film.

2. The device of claim 1 wherein at least a portion of said releasable layer is at least translucent to permit visual observation therethrough.

3. The device of claim 2 in which the releasable layer is a translucent film.

4. The device of claim 2 in which the releasable layer is a transparent film.

5. The device of claim 2 in which the releasable layer contains a perforation for purposes of rendering it at least translucent.

6. The device of Claim 5 which comprises an appliance extending through said perforations and attached to the surface of said film opposite to the surface containing said pressure-sensitive adhesive.

7. The device of Claim 1 which comprises an absorbent material attached to the adhesive coated surface of said film.

8. The device of Claim 1 in the form of a roll in which the release liner and releasable layer are the same.

9. In a method for applying the relatively thin, conformable polymeric film of claim 1 to a substrate comprising removing the release liner from the adhesive coated surface of the relatively thin, conformable polymeric film, the improvement comprising placing said film on said substrate with said releasable layer and removing the releasable layer from said film.

10. The method of Claim 9 wherein said substrate is an animal body.

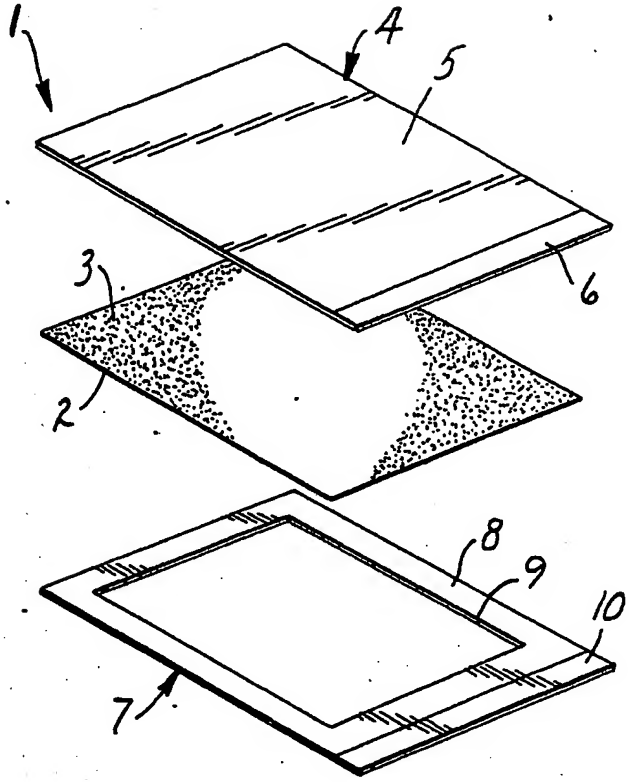

FIG.1

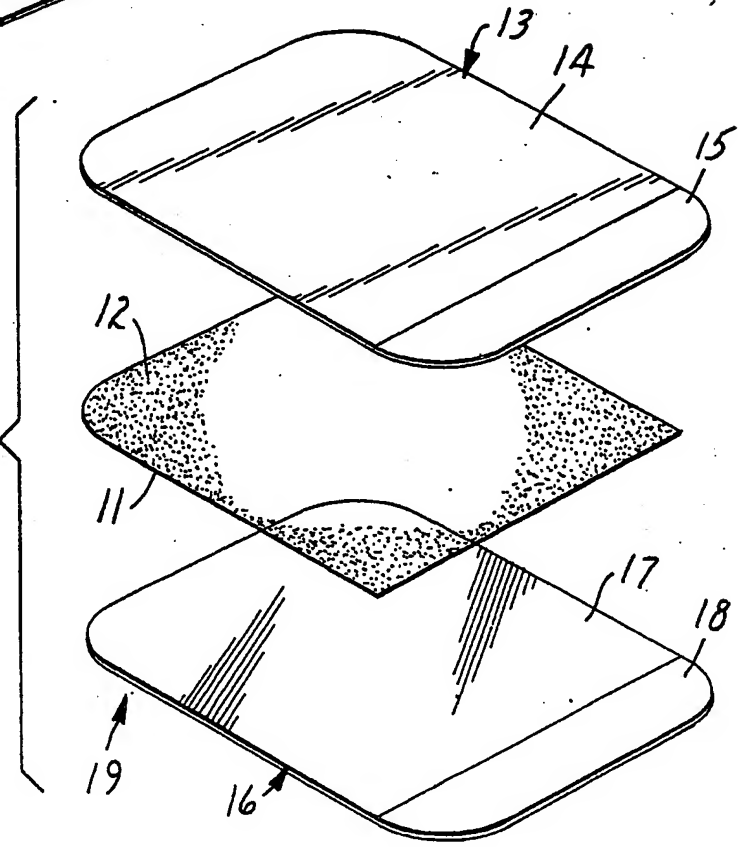

FIG.2

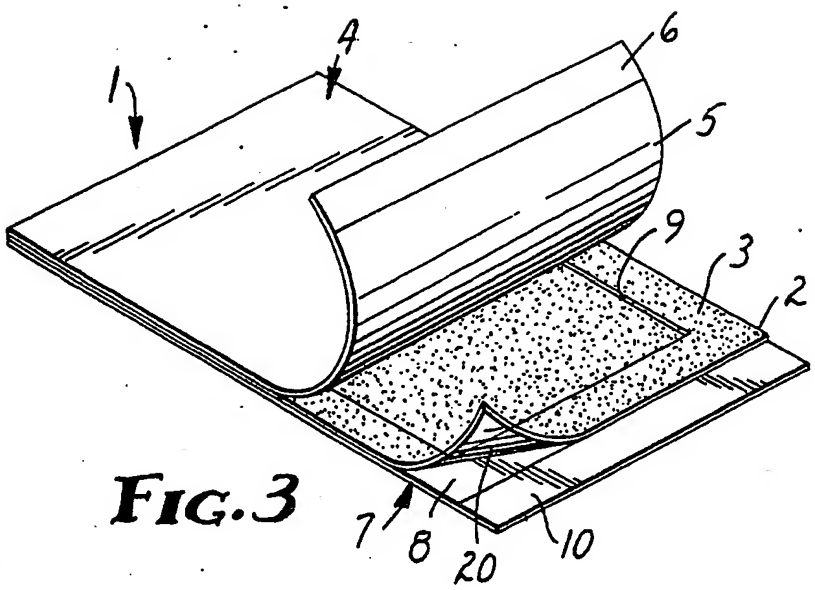

FIG. 3

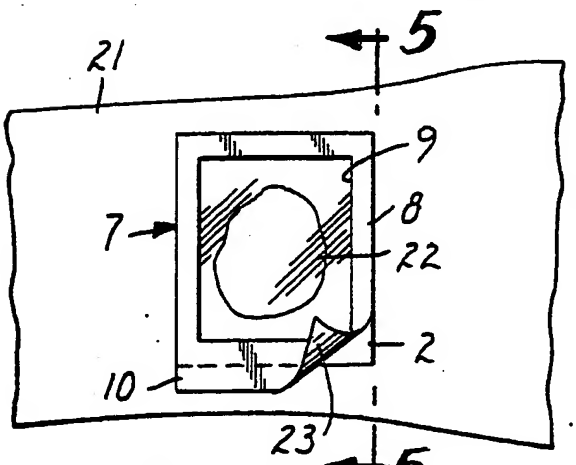

FIG. 4

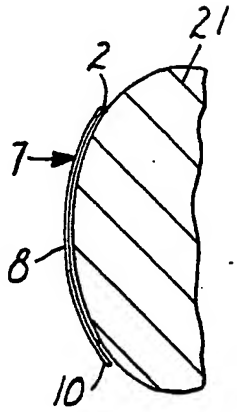

FIG. 5

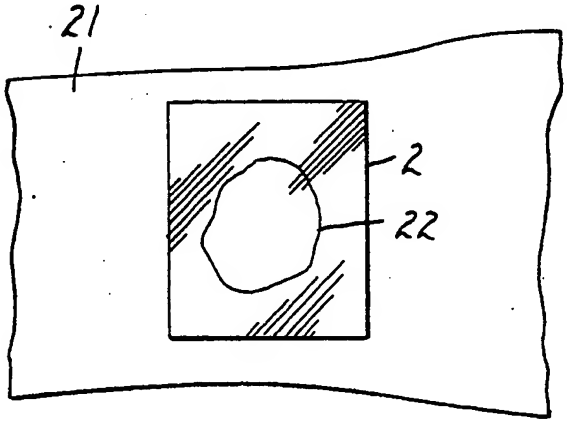

FIG. 6